



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,971	09/06/2001	Tetsu Yamamoto	199/F-012	3167

23416 7590 12/02/2003

CONNOLLY BOVE LODGE & HUTZ, LLP
P O BOX 2207
WILMINGTON, DE 19899

EXAMINER

BELL, BRUCE F

ART UNIT	PAPER NUMBER
----------	--------------

1746

DATE MAILED: 12/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/889,971

Applicant(s)

YAMAMOTO, TETSU

Examiner

Bruce F. Bell

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 8-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,8,11,12,15 and 21 is/are rejected.
- 7) ☒ Claim(s) 10,13,14 and 16-20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 8, 11, 12, 15 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Andrieu et al (5429759).

Andrieu et al disclose a proton conducting polymer solid electrolyte comprising a poly-ether which has two terminal primary amine functions and which is cross-linked by a curing agent having two epoxy functions, said electrolyte having an acid that is dissolved into the cross linked poly-ether and the electrolyte containing water. See claim 1, abstract, col. 3, lines 11-20. The electrolyte is suitable for use in electrochemical cells, fuel cells, electrolytic cells, super-capacitors, electrochemical sensors, electro-chromic windows and displays and in micro-ionic applications. See col. 3, lines 25-33. Example 1 discloses the liquid medium, having a basic polymer having an amino group in a repeating unit, a bridging (curing agent), and a solvent. The mixture was cast into a mold and the solvent was evaporated and the resulting film was cross-linked for 15 hours at 100 degrees centigrade. The cross-linked film was then swollen with an aqueous phosphoric acid solution and dried in a vacuum to remove the water. The

Art Unit: 1746

resulting electrolyte contained 30% by weight of phosphoric acid. Example 4 is similar except that a sulfonic acid is used.

Andrieu et al anticipates the applicants instant invention as set forth in the instant claims as set forth by the disclosure above.

Allowable Subject Matter

3. Claims 9, 10, 13, 14, 16-20 allowable over the prior art of record.
4. Claims 9, 10, 13, 14, 16-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is an examiner's statement of reasons for allowance: The prior art of record fails to teach and/or suggest a basic polymer from the group set forth in the instant claims 10, 14, 16 and 17 which has a repeating amino group unit, a bridging agent and a solvent. Although there is prior art that showing polymer electrolytes being made with a repeating amino group unit, a solvent and an aqueous acid, the polymer electrolytes of the prior art do not disclose the use of a bridging or curing agent in their instant formulation. Therefore, since applicants are showing that by the addition of the bridging agent that the mechanical strength is improved, it appears that the instant invention would not have been obvious when the bridging agent is used in conjunction with the particular basic polymer being set forth in the dependent limitations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

Art Unit: 1746


accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce F. Bell whose telephone number is 703-308-2527. The examiner can normally be reached on Monday-Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 703-308-4333. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

BFB
December 1, 2003


Bruce F. Bell
Primary Examiner
Art Unit 1746